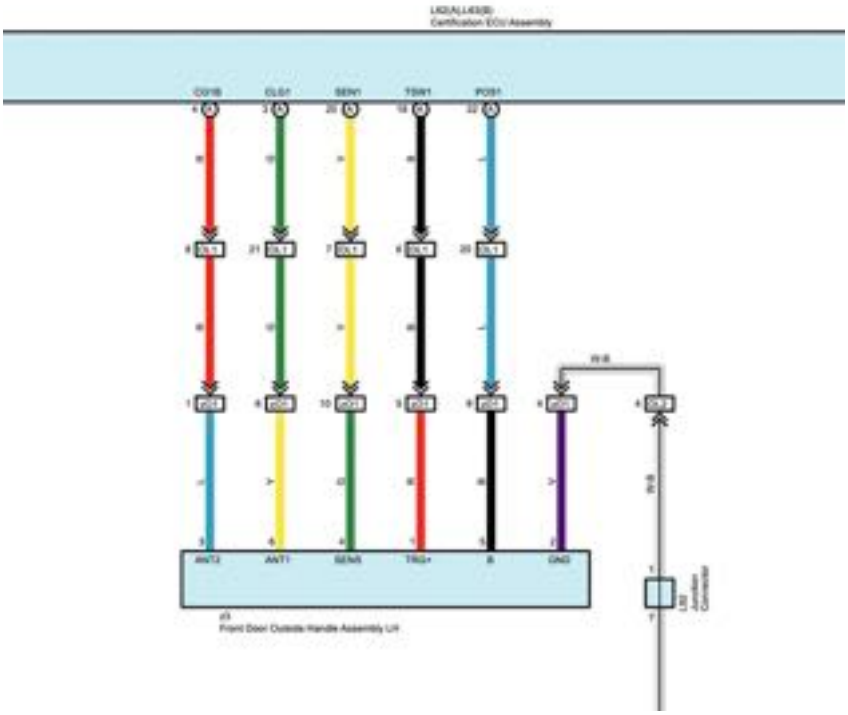
Summary

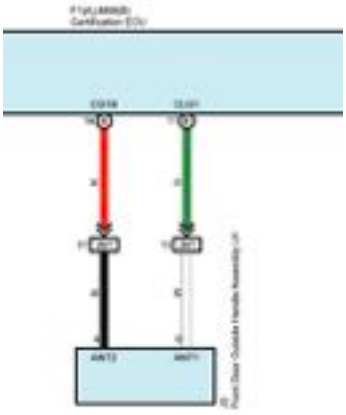
This document will show you how to add the SKS (Smart Key System) door handle to the front passenger door on a Gen IV Prius that only came with the driver's door SKS system. I strongly recommend you review the outstanding description that BrettS prepared that he prepared for the Gen III Prius. His write-up can be found here:

https://priuschat.com/threads/how-to-add-sks-to-the-hatch-and-passenger-door-on-a-1-door-sks-gen-iii-prius.90420/

The Gen IV varies significantly from the Gen III. For starters, the Gen III had these wires at the door handle and Certification ECU.

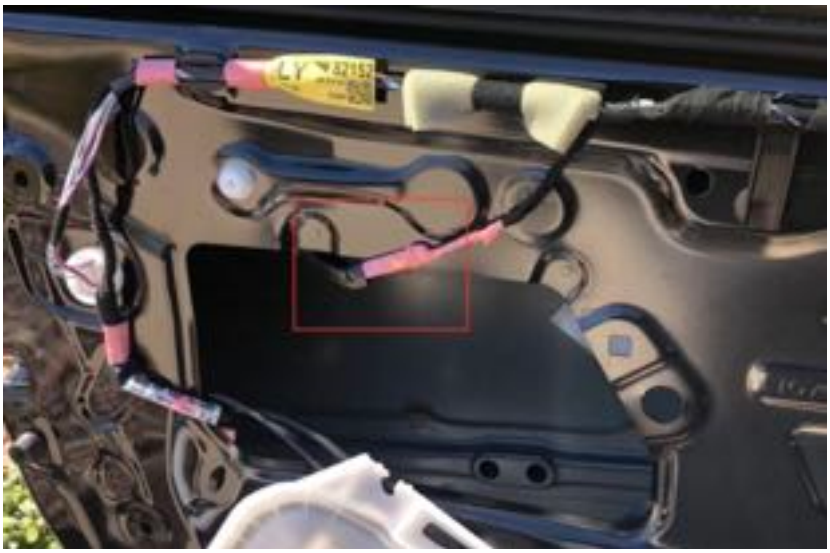


The Gen IV only has only two wires as shown in this illustration.



The next difference is the door handle wiring. Unfortunately Gen IV owner's do not have a convenient connector to plug into as Brett identified on the Gen III (shown in the image below).

Evaluating the driver's side SKS door handle, I could clearly see there are only two wires that need to be routed to the Certification ECU (also confirmed in the TIS schematic above). My goal was to purchase the 12-14" harness that ran from the door handle to the main wire harness. In the picture below I drew a red box around the wire harness (two wires). After some investigation, I found Toyota only sold the entire door wire harness ($272) so that wasn't an option.



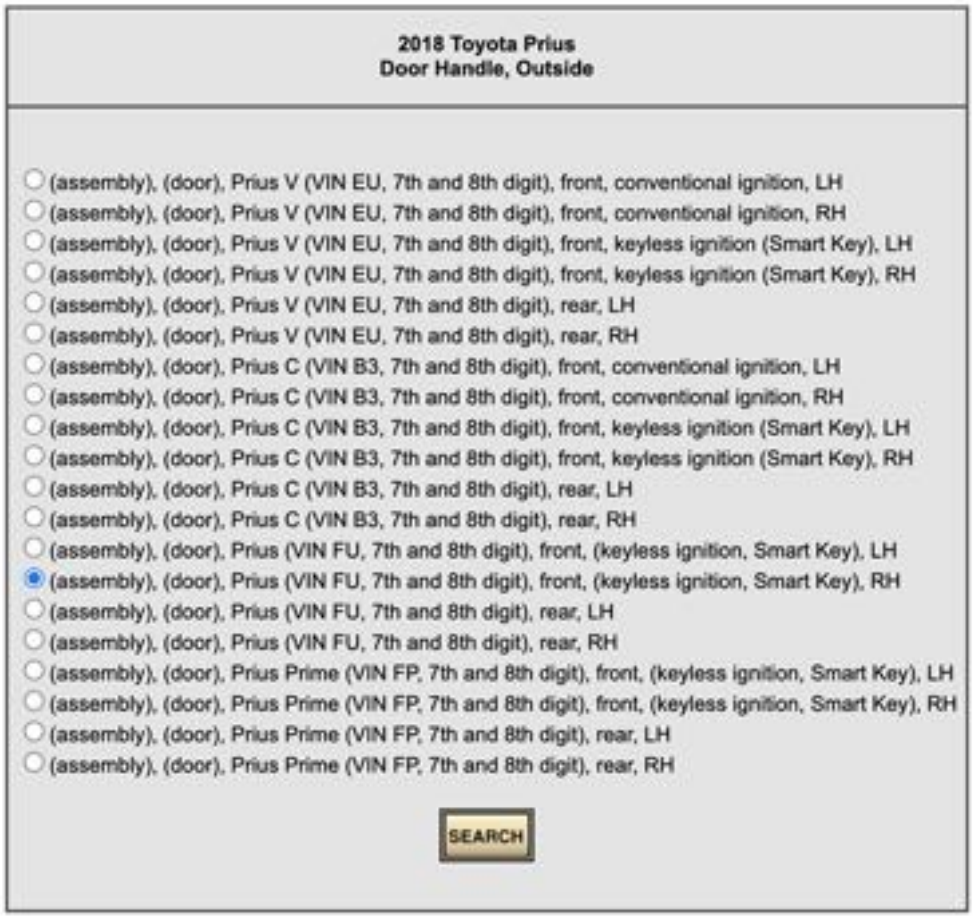
Another approach would be to get the connector that plugs into the door handle and route the two wires around the window track and down to the ECU. I decided not to go this route

because I was concerned how I might secure the wires so they wouldn't interfere with the window. Plus, getting the connector might be challenging.

So I started searching for a salvage yard that had a black Gen IV Prius with an SKS handle. When contacting the salvage yards I asked if they would sell me the handle and that small section of the wire harness. I found it for $50 plus $20 shipping. As it turns out, the salvage yard sent me the entire door wire harness but I only used the small piece that goes to the door handle. Here are two websites, that might help you find a used door handle for your car.

https://www.lkqpickyourpart.com/parts/chula-vista-west-1283/
https://www.car-part.com/

You will be asked which door, Prius model and VIN. I used the one highlighted below.



Looking at where this harness plugs into the door handle, you can see it has only two wires (black and white).

When you order the door handle, this connector may be plugged into the handle and it's tricky to get it out. Here is a video that describes how to remove it.
https://www.youtube.com/watch?v=Ngq34gltaMA

The two wire harness routes down the door panel around the window track as shown below.

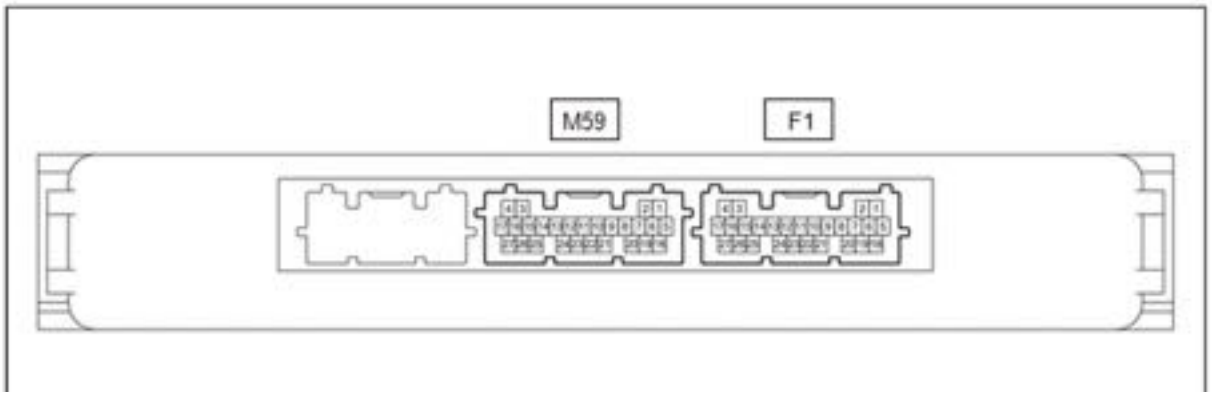
INSTALLATION

I started at the Certification ECU, located behind the glove compartment. The connector is the bottom one an it's easy to remove (small tab on left side).

Locate pins 16 and 17 in the Certification ECU connector, you will be working with the Red and Green wires as shown in the photos above.

TERMINALS OF ECU

CHECK CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)



I used wire taps and routed 22 AWG wire toward the door hinge. I removed the panel that allowed access to the back side of the door hinge where the wires route through. The next part is a probably the most challenging part of the installation. You need to route the two wires through the rubber boot at the door hinge. Toyota (and other manufacturers) now put

connectors there so you can't just push the wires through the boot. There are plenty of open spaces on the connector but the challenge is gaining access to it. I started by removing this bolt to get more room to work.

Here is a YouTube video that might be useful that shows how to remove these type of connectors.
https://www.youtube.com/watch?v=UfHEHeQXmxE

When you get the rubber boot off, there are four release pins and the connector will come out so you can work on it (shown below in red box, two on each side). I used the two pin locations to the left of the black and white wires to route my wires through as they were large and not in use. Note, even though I was using 22 AWG wire I couldn't get the wire to pass through the large pin openings. This is because there are small "fingers" in the connector that retain the pins. So I used a small drill bit to open up the holes and the wires passed through quite easily.

Next I had to route the wires through a rubber housing (attached to the door) where the other wires are routed. I used a large plastic Zip Tie and pushed the rubber boot back to make the

path as straight as possible. It takes a bit of patience but it wasn't too bad. Here is what it looked like with the Zip Tie routed through the rubber boot. Then I simply pulled the two wires through (I did use some lubricant to facilitate this).

Now it's just a matter of routing the wire up to the door opening and spicing it to the wire coming from the door handle.

Removing the existing handle.
There are two white tabs that compress and the connector rotates forward. This connector retains the front of the door handle. Here is a photo of it rotated as well as the door handle after I removed it. Here is a video on how to remove the door handle (2:22 sec).

https://www.youtube.com/watch?v=Ngq34gltaMA

When installing the new handle and the small wire harness, make sure to route it behind the window track. There are three fasteners that secure this small wire harness to the car to prevent interference with the window operation. Two are located on the bracket below (see the red box for location) and the third is just inside the opening of the door (on the top about midpoint of the opening). I found it helpful to compare the wire routing to the driver's side and used it to route the wire harness on the passenger side.

The white connector below the bracket will likely be attached to the wire harness. I separated it to show you what it looks like. It compresses on each side on the back and will come out of the bracket, it's tricky but it does come out.

Finally here is what my installation looked like when I finished. As you can see, I routed red and black wires for my new door handle.

All the other instructions are common to Brett's instructions, like setting up your SKS system to unlock all the doors when the driver's handle is touched.

Good luck should you decide to take on this project.

P.S.

I did verify the wiring for the Gen IV hatch is the same as Gen III. One wire is routed to the Main Body ECU (BDSU) and I found the second wire (TSW6) at the hatch that is not wired for the base model. The reason I did not try to install the two button hatch switch is because I don't know where to route these wires based on Brett's instructions. He routed these two wires to the "lock" and "unlock" sensor wires at the door handle (and Certification ECU). For Gen IV, I only see Ant 1 and Ant 2 so I don't know how to wire the new hatch switch. I would love to do it if anyone has a suggestion.